

***Sample* ERGONOMICS PROCESS**

Purpose

The purpose of this program is to effectively eliminate or reduce work-related Musculoskeletal Disorders (MSD's) and hazards by providing management support and employee involvement in the identification and resolution of hazards and by providing training and evaluation on an on-going process.

Ergonomics: is the science of fitting jobs to people. Ergonomics encompasses the body of knowledge about physical abilities and limitations as well as other human characteristics that are relevant to job design. Ergonomic design is the application of this body of knowledge to the design of the workplace (i.e., work tasks, equipment, and environment) for safe and efficient use by workers.

Ergonomic program: is a *systematic process* for anticipating, identifying, analyzing and controlling MSD hazards.

Musculoskeletal disorders (MSDs) are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal disks. Examples of MSDs include:

- Carpal tunnel
- Tendonitis
- Epicondylitis
- Synovitis
- Muscle strains
- Raynaud's phenomenon
- Rotator cuff tear
- Shoulder Tendonitis, Bursitis, Impingement
- De Quervains' disease
- Carpet layers knee
- Trigger finger
- Raynaud's phenomenon
- Sciatica
- Low back pain
- Ulnar Nerve Impingement
- Thoracic Outlet Syndrome

Program Goals

1. *Decreased level of risk for ergonomic injuries to employees*
2. *Improved moral among employees*
3. *Improved quality of work*

4. *Increased productivity*
5. *Increased safety awareness*
6. *Reduced workers compensation claims costs*

Program Tasks

1. *Management Leadership & Employee Involvement*
 - a. *Establish management commitment to develop a program that focuses on MSD prevention. With management support it is easy to have “buy in” from all employees. Commitment from all employees makes for a successful program.*
2. *Hazard Identification & Information (Risk Factor Identification)*
 - a. *Assess all jobs to determine if there are risk factors present. Look for injury trends or patterns of signs and symptoms.*
3. *Job Hazard Analysis & Control*
 - a. *Assess areas where risk factors were identified. Determine the degree of exposure (high/low risk) and develop a plan of action.*
4. *Training*
 - a. *Establish a written training program through which supervisors are trained on basic ergonomic awareness and the identification of ergonomic risks.*
 - b. *Educate all employees about MSD sign & symptoms, risk factors and control measures.*
5. *Medical Management*
 - a. *Develop a process for assuring that employees with work related MSDs are provided the following:*
 - *A mechanism for early reporting of signs and symptoms of MSDs;*
 - *Early assessment of reports;*
 - *Access to prompt medical treatment and follow-up;*
 - *Modified or alternate work if recommended by the medical provider.*
6. *Program Evaluation and Documentation*
 - a. *Develop a process for evaluation and documentation of the effectiveness of the ergonomic process and established controls.*

TASK 1: Management Leadership & Employee Involvement

Establish a MSD Policy Statement.

Policy Statement: Employees are highly encouraged to bring their concerns to their supervisors. Feedback from employees is an important means of identifying

and correcting ergonomic hazards. When an MSD hazard is identified, the supervisor will provide a response and recommended action within 24 hours of receiving notification of the hazard or condition.

Management will:

- (1) Assign and communicate responsibilities for setting up and managing the ergonomics program so managers, supervisors, and employees know what is expected of them and how they are held accountable for meeting those responsibilities.
- (2) Provide those persons with the authority, resources, information, and training necessary to meet their responsibilities.
- (3) Examine existing policies to ensure they encourage reporting and do not discourage reporting.
- (4) Inform supervisors to:
 - a) Receive and respond promptly to reports about signs and symptoms of MSDs, MSD hazards and recommendations.
 - b) Take action, where required, to correct identified problems.
- (5) Communicate regularly with employees about the program and their concerns about MSDs. This shall be accomplished through safety and health committees, postings on employee bulleting boards, weekly staff meetings, and routine safety training meetings.

Employee Involvement: Employees will be provided:

- (1) Methods to report signs and symptoms of MSD's and MSD hazards and to make recommendations about appropriate ways to control them. Reporting procedures include notification of immediate supervisor, ergonomic suggestion forms, and medical management forms. Any one of these methods constitutes a means of reporting and will require action on the part of the employer.
- (2) Prompt responses to their reports and recommendations. 24-hour response will be provided for reports of MSDs and MSD hazards.
- (3) Access to information about the ergonomics program. This program is available to all employees for review.
- (4) Methods to become involved in developing, implementing, and evaluating:
 - a) Job hazard analysis and control. This is accomplished by participation on safety & health committees, and other appropriate means of communication.
 - b) Training. Feedback from employees on the quality and usefulness of ergonomic training will be reviewed by the designated program administrator to be used for training modifications to improve effectiveness.
 - c) The effectiveness of the program and control measures. Loss Control Committees are the primary means of employee involvement in this area. Additionally, all comments, recommendations, and suggestions

will be forwarded to the designated program administrator for action and response comment.

TASK 2: MSD Hazard Identification & Information

Identification

MSD Hazard identification is accomplished by:

- 1) Reports (written or verbal) of MSD signs, symptoms, hazards, or control recommendations from employees and supervisors.
- 2) Review of existing safety records for MSDs and MSD hazards.
- 3) Routine inspections by management and supervisors

Employee Information

For current and new employees in jobs at risk for MSD's the following information will be provided:

- 1) How to recognize the signs and symptoms of MSDs and the importance of early reporting of signs and symptoms.

MSD – SIGNS & SYMPTOMS

- Joint Pain
- Stiffness
- Pain, tingling, or numbness in hands, palms, feet or other areas
- Loss of muscle function
- Swelling or inflammation
- Difficulties performing daily activities
- Burning sensation
- Shooting or stabbing pains in arms and legs
- Difficulties in moving body parts
- Decreased range of motion
- Redness/loss of color
- Cramping
- Deformity

- 2) Hazards that are reasonably likely to be causing or contributing to MSDs.

MSD RISK FACTORS

Risk Factor

1. Repetition
2. Poor body mechanics

Example

Keyboarding, Mousing
Poor posture/lifting

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|--------------------|--|
| 3. Force | Carrying |
| 4. Vibration | Driving |
| 5. Impact | Hand tools |
| 6. Acceleration | Throwing objects |
| 7. Cold | Working outdoors, working
in refrigerated areas |
| 8. Work-rest ratio | Overtime |

- 3) How to report signs and symptoms of MSD's and MSD hazards, and how to make recommendations.

Information Methods include, but are not limited to, information sheets, videotapes, or classes. Information will be provided in a way that employees understand. Employees will be given an opportunity to ask questions, receive answers, and be provided information in the languages employees use and at levels they comprehend.

TASK 3: Job Hazard Analysis & Control

Job Hazard Analysis

The purpose of Job Hazard Analysis (JHA) is to identify MSD hazard/risk elements to provide information for effective control measure. When MSD hazards/risks are identified, a full JHA will be conducted and control measures implemented to eliminate or control the hazards/risk to the extent feasible. The purpose of a job hazard analysis is to pinpoint the cause of the problem. If the cause is obvious, you may move directly to controlling the MSD hazard/risk without conducting all steps of JHA.

- 1) Make a list of (or a representative sample of):
 - a) Employees in the problem job; and
 - b) Employees who perform the same physical work activities but in another job. This is called a similar job. If employees in a similar job are exposed to the same MSD hazards as employees in the problem job, the similar job also is a problem job. You must expand your ergonomics program to include that job and those employees.
- 2) Ask those employees:
 - a) Whether they are experiencing signs or symptoms of MSDs;
 - b) Whether they are having difficulties performing the physical work activities of the job; and
 - c) Which physical work activities they associate with the problem.

- 3) Observe employees performing the job in order to identify job factors that need to be evaluated; and
- 4) Evaluate those job factors to determine which ones are reasonably likely to be causing or contributing to the problem.

Control Measures

Successful control measures include the following, either separately or in combination. Where solutions are obvious and the hazards may be eliminated quickly, implementation of controls is permitted without all of the steps of the control process. Interim control measures may be implemented, if practical, until permanent control measures are in place.

The Control Measure Process involves:

- 1) Identification, evaluation, and implementation of feasible control measures (interim or permanent) to control the MSD hazards. This includes prioritizing the control of MSD hazards, where necessary.
- 2) Tracking progress in controlling the MSD hazards, particularly if prioritizing of control of the hazards is necessary.
- 3) Communication of results of the job hazard analysis to other areas of the workplace (e.g., procurement, human resources, maintenance, and engineering) whose assistance may be needed to successfully control the MSD hazard.
- 4) Identification of hazards when equipment is changed, re-designed or purchased, and when change occurs in processes or facilities.

Control Methods

- 1) **Engineering Controls** are the physical changes to jobs that control exposure to MSD hazards, and where feasible, are the preferred methods for controlling MSD hazards. Engineering controls act on the source of the hazard and control employee exposure to the hazard without relying on the employee to take self-protective action or intervention. Examples of engineering controls for MSD hazards include changing, modifying, or redesigning the following:

- Workstations
- Tools
- Facilities
- Equipment
- Materials
- Processes

- 2) **Work Practice Controls** are controls that reduce the likelihood of exposure to MSD hazards through alteration of the manner in which a job or physical work activities are performed. Work practice controls also act on the source of the hazard. However, instead of physical changes to the workstation equipment, the protection work practice controls provide is based upon the behavior of managers, supervisors, and employees to follow proper work methods. Work practice controls include procedures for safe and proper work that are understood and followed by managers, supervisors, and employees. Examples of work practice controls for MSD hazards include:
- Safe and proper work techniques and procedures that are understood and followed by managers, supervisors, and employees.
 - Conditioning period for new or reassigned employees
 - Training in the recognition of MSD hazards and work techniques that can reduce exposure or ease task demands and burdens.
- 3) **Administrative Controls** are procedures and methods, typically instituted by the employer, that significantly reduce daily exposure to MSD hazards by altering the way in which work is performed. Examples of administrative controls for MSD hazards include:
- Employee rotation
 - Job task enlargement
 - Adjustment of work pace
 - Redesign work methods
 - Alternative tasks
 - Rest breaks

Continuing Control Process

After implementation of permanent controls, to avoid the re-occurrence of MSD, the following steps will be taken.

- 1) Promptly check out employee reports of signs and symptoms of MSDs to determine whether medical management is needed.
- 2) Promptly identify and analyze the MSD hazards and develop a plan for controlling them.
- 3) Track progress in implementing the plan and measure success in eliminating or reducing MSD's .
- 4) Continue to look for solutions for the problem job and implement solution as soon as possible.

TASK 4: Training

Training will be provided to:

- 1) All employees in problem jobs, and all employees in similar jobs that have been identified as problems jobs;
- 2) Their supervisors; and
- 3) All persons involved in setting up and managing the ergonomics program.

Training Topics include:

Training For	Employees must understand
Employees in problem jobs, employees in similar jobs that are problem jobs, and their supervisors.	<ul style="list-style-type: none"> ✓ How to recognize MSD signs and symptoms, and the importance of early reporting. ✓ How to report MSD signs, symptoms, and hazards, and make recommendations. ✓ MSD hazards in their jobs and the measures they must follow to control MSD hazards. ✓ Job controls and work practices that have been implemented in their jobs. ✓ The ergonomics program and their role in it.
Persons involved in setting up and managing the ergonomic program	<ul style="list-style-type: none"> ✓ The ergonomics program and their role in it. ✓ How to identify and analyze MSD hazards. ✓ How to identify, evaluate, and implement measures to control MSD hazards. ✓ How to evaluate the effectiveness of the ergonomics program.

Task 5: Medical Management

The employer will make available prompt and effective medical management whenever an employee has identified a WMSD. (This means that when an employee reports signs or symptoms of a WMSD. All reports will be processed to determine whether medical management is necessary). A Risk Management Incident Report should be filed on-line within 24 hours of the employee's first report of signs or symptoms of a WMSD. Medical management, including recommended work restrictions, will be established by the Designated Medical Provider's (DMP's). A First Report of Injury Form will be completed and filed with Workforce Safety & Insurance (WSI) within 24hrs proceeding the first date of medical treatment.

Reports of WMSDs:

1. When reports of WMSD's are made, employees will be provided with prompt access to health care professionals (DMP's) for effective evaluation, treatment and follow up: and

2. Information regarding employee's job will be provided to the DMP to help ensure medical management is effective, and
3. Written medical opinion will be obtained from the DMP and the employee and employer will be provided a copy.

Information to be provided to the DMP:

1. Descriptions of the employee's job and hazards identified in the hazard analysis,
2. Descriptions of available modifications to job or temporary alternative duty to fit the employee's capabilities during the recovery period.

Designated Medical Providers written opinion:

1. The DMP's written opinion must contain:
 - a) The work-related medical conditions related to the WMSD reported;
 - b) Recommended work restrictions, where necessary, and follow-up for the employee during the recovery period;
 - c) A statement that the DMP has informed the employee about the results of the evaluation and any medical conditions resulting from exposure to WMSD hazards that require further evaluation or treatment

Task 6: Program Evaluation

Evaluation of the ergonomics process and controls will be conducted periodically, and at least once a year, to ensure administration and management and compliance with requirements.

The following procedures will be used to evaluate the effectiveness of the ergonomics program and control measures.

1. Monitoring of program activities to ensure that all the elements of your ergonomics process are functioning.
2. Selection and implementation of effectiveness measures, both activity and outcome measures, to evaluate the program and the controls to ensure that they are in compliance with requirements.
3. Establishment of baseline measurements to provide a starting point for measuring the effectiveness of the program and the controls.

All program deficiencies found will be corrected promptly.

Examples of Activity Measures	Examples of Outcome Measures
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<ul style="list-style-type: none"> ✓ Plan to implement ergonomics process has been developed. ✓ Number of employee reports and recommendations. ✓ Average time between employee reports and response. ✓ Number of hazards identified. ✓ Number of employees who have received ergonomics info. ✓ Number of jobs analyzed ✓ Number of jobs awaiting analysis. ✓ Number of employees interviewed for job analysis ✓ Number of symptom surveys conducted. ✓ Number of jobs controlled. ✓ Number of job changes made. ✓ Number of employees trained and waiting to be trained. ✓ Number of work hours devoted to the ergonomics process. ✓ Annual expenditures on process and controls. 	<ul style="list-style-type: none"> ✓ Reported symptoms of WMSDs. ✓ WMSD incidence rates per job title. ✓ Number of workers' compensation claims. ✓ Number of lost-workdays WMSDs. ✓ Average lost workdays per WMSD. ✓ Severity rate of WMSDs. ✓ Number of recordable MSDs. ✓ Symptom survey results. ✓ Annual medical costs for MSDs. ✓ Average medical costs per WMSD. ✓ Annual workers' compensation costs. ✓ Number of job transfer requests per job title. ✓ Employee absentee rates per job title.
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SUMMATION

The main components of an effective process include, but are not limited to:

- Established policies, procedures and protocols;
- Early reporting of signs and symptoms associated with MSD's.
- Early medical interventions;
- Communication with the injured employee and medical provider;
- Transitional work that meets the functional capacity of the injured worker;
- Ongoing case management;
- Timely and safe return to work;
- A working relationship with medical providers;
- Necessary job accommodations and ergonomics modifications as/if needed.